Computer Application

Chapter 1

1. **Fill in the Blanks**:
    1. A software engineering concept, in which concepts are represented as "objects" is called_____.
    2. Every program in C++ has _____ function, which is always called when your program first executes.
    3. Reserved words in C++ have predefined meaning to compiler called _____.
    4. A group of characters that logically belong together is called_____.
    5. _____ is the process by which objects of one class acquire the properties of objects of another class.
    6. The _____ approach focuses on objects that represent abstract or concrete things of the real world.
    7. C++ programming language is extension to _____ language.
    8. A _____is a collection of commands.
    9. During 1970 _____ created C programming Language.
    10. A token is a group of _____ that logically belong together

Answer:

1. Object-oriented or object-orientation
2. One 'Main' Function
3. Keywords
4. Token
5. Inheritance
6. object-oriented
7. C language
8. Program
9. Dennis Ritchie
10. Characters

2. **True/ False**
    1. The wrapping up of data and functions into a single unit is known as encapsulation.
    2. Comments affect the operation of the program.
    3. Literals are data items that never change their value during the execution of the program
    4. Structured programming takes on the top-to-bottom approach

5. Polymorphism is a process of deriving a new class from the existing class.
6. C++ is a Low level programming language.
7. C++ is case sensitive that is upper case and lower case letters are considered different from each other.
8. Operators are special symbols used for specific purposes.
9. C++ provides nine types of operators.

Answer:

1. True
2. False
3. True
4. True
5. True
6. False
7. True
8. True
9. True

3. Short Answer type Questions

1. Briefly explain the structure of typical C++ program?
2. What is comment?
3. List out C++ main character set.
4. What is meant by an object?
5. What is an Identifier?
6. What is source code?
7. What are literals?
8. Explain Tokens?
9. What are keywords?
10. What are operators?
11. Explain class?
12. What is Polymorphism?
13. Define Encapsulation.

4. Long Answer type Questions

1. Explain the role of Punctuators in C++ language.
2. How C++ came in to existence? Explain.
3. Explain the concept of object orientation in C++.
4. Explain the Character set of C++?
5. Differentiate between Structured and Object oriented programming language.
6. Differentiate between Inheritance and Polymorphism.

Chapter 2

1. Fill in the blanks:

1. Reserved memory locations to store values is called_____
2. A building block of a program is known as_____.
3. _____ Symbol that tells the compiler to perform specific mathematical or logical manipulations.
4. _____ is used to alter the meaning of the base type so that it more precisely fits the needs of various situations.
5. _____ contains characters that are similar to character literals: plain characters, escape sequences, and universal characters.
6. We need to use various _____ to store various information.
7. Constants refer to _____ values that the program may not alter.
8. Character literals are enclosed in _____ quotes
9. Operator _____ determines the grouping of terms in an expression.
10. String literals are enclosed in _____ quotes.

Answer:

1. Variable
2. keywords
3. Operator
4. Modifier
5. String
6. Variables
7. Fixed
8. Single
9. Precedence
10. Double

2. True/False

1. Operator precedence does not determine the grouping of terms in an expression.
2. Basic types cannot be modified by type modifiers.
3. Constants refer to fixed values that the program may not alter.
4. A conditional expression is one which evaluates as true (a non-zero value) or false (0).
5. You cannot break a long line into multiple lines using string literals.
6. When you create a variable you don't reserve some space in memory.
7. C++ allows the char, int, and double data types to have modifiers preceding them.

8. The conditional operator evaluates an expression, returning one value if that expression evaluates to true, and a different one if the expression evaluates as false.
9. Boolean stores only true value.
10. Blank spaces are not allowed in variable name.

Answer:

1. False
2. False
3. True
4. True
5. False
6. False
7. True
8. True
9. False
10. True

3. Short Answer type questions:

1. What are basic types of variable in C++?
2. Explain the term type modifier.
3. What is the difference between constant and variable?
4. What is operator?
5. What is conditional Expression?
6. How a variable is declared?
7. What do you understand by initialization of a variable?
8. Name different arithmetic operators?
9. List Relational operators.
10. What are assignment operators?
11. Explain Ternary operator?
12. What is a statement?

4. Long answer type questions:

1. Explain about the arithmetic operators and relational operators in detail.
2. What do you mean by character literal? Also explain escape sequences.
3. State the rules for naming a variable.
4. What do you understand by operator precedence?
5. Explain bitwise operators?
6. What is the difference between Character literal and String literal?

Chapter 3

1. Fill in the blanks:

1. During its process, a program may _____ segments of code.
2. A compound statement is a _____.
3. _____allows to make an absolute jump to another point in the program.
4. _____ grants operations common to both input and output
5. C++ allows at least _____ levels of nesting.
6. Blocks can be _____inside of other blocks.
7. Compound statement is treated as _____ statement by the compiler.
8. C++ provides _____ statements that serve to specify what has to be done by our program, when, and under which circumstances.
9. C++ provides various formatted console I/O functions for formatting the _____.

Answer:

1. Repeat
2. Group of statements
3. Goto
4. Ios
5. 256
6. Nested
7. Single
8. Control flow
9. Output

2. True/False

1. Blocks begin with a { symbol, end with a } symbol,
2. In case of switch statement, It is possible to use variables as labels or ranges.
3. Compound statement, is a group of statements that is treated by the compiler as if it were a single statement
4. Break leaves a loop, even if the condition for its end is not fulfilled.
5. The putch () function returns the next character from the specified input stream.
6. Jump statements allow altering the flow of a program by performing jumps to specific locations.
7. gets () and puts () both are unformatted function.
8. Any loop statement within another loop statement is called as Nested loop.

9. Loops repeat a statement a certain number of times, or while a condition is fulfilled.
   Answer:

1. True
2. False
3. True
4. True
5. False
6. True
7. True
8. True
9. True

3. Short answer type questions:

1. What is a compound statement?
2. How many types of conditional statements can be used in C++?
3. Briefly explain the working of Break statement.
4. What is the role of Exit () function?
5. What is nested loop? Give syntax.
6. Explain if-else statement.
7. Explain continue statement?
8. How break statement works?
9. What is goto statement?
10. Explain for loop.
11. What is header file?

4. Long Answer type questions

1. Explain I/O operations in respect with ios.
2. What is difference between gets () and puts () functions.
3. Give syntax of any one of the iteration statement.
4. Explain switch statement with example.
5. What is the role of jump statements in C++ programming?
6. What is the difference between while and do-while statement?
7. What is for loop? Explain its working.
8. Explain difference between if and nested if with examples?
9. What is the difference between goto and continue statement with examples?
10. Explain do while loop with its syntax and examples?

Chapter 4

1. Fill in the blanks

1. A function is a _____ that together perform a task.
2. Variables that are declared inside a function or block are _____.
3. If a function returns a value, it must have a _____ statement that specifies the value to return.
4. The _____ keyword makes variable value stable
5. The _____ and the parameter list together constitute the function signature.
6. A function _____ tells the compiler about a function's name, return type, and parameters.
7. Some functions perform the desired operations without returning a _____.
8. _____ Variables are defined outside of all the functions, usually on top of the program.
9. The constant variable can be declared using _____ keyword.

Answer:

1. Group of statement
2. Local Variable
3. Return
4. Const
5. Function Name
6. Declaration
7. Value
8. Global
9. Const

2. True/False

1. The return type is the data type of the value the function returns.
2. A program can have same name for local and global variables
3. C++ does not allow passing an entire array as an argument to a function.
4. A function definition provides the actual body of the function.
5. If a function returns a value, it may or may not have a return statement that specifies the value to return.
6. The **call by value** method of passing arguments to a function copies the actual value of an argument into the formal parameter of the function.
7. When a global variable is defined, it is initialized by the system automatically.
8. The global variables will hold their value throughout the life-time of the program.

9. Local variables are known to functions outside their own.
10. In a function, it's possible to have more than one return statement.

Answer:

1. True
2. True
3. True
4. True
5. True
6. True
7. False
8. True
9. False
10. True

3. Short Answer Type Questions:

1. What is a function?
2. What do you mean by function prototype?
3. How we can access a function in C++?
4. What is the use of constant arguments?
5. Define return type?
6. What are parameters and Explain default value of parameters?
7. Explain the term Call by pointer?
8. How to initialize local and global variables?

4. Long Answer type Questions

1. Define scope rules of functions and variables.
2. Explain the term 'parameters'. Discuss its types also

5. Give difference:

1. Call by value and call by reference
2. Local and global variable.

Chapter 5

1. **Fill in the blanks:**
    1. An array has a _____ of the same type.
    2. An element in 2-dimensional array is accessed by using the _____
    3. Array of strings in C++ is used to store a _____ which is a character array.
    4. _____is an array having a single index value to represent the arrays element.
    5. If you omit _____, an array just big enough to hold the initialization is created.
    6. Array _____ is the same as the index.
    7. Array consist of _____ memory locations
    8. To declare an array in C++, programmer specifies the type and the number of _____ required by an array.

    Answer:

    1. Variables
    2. Subscript
    3. null terminated string
    4. One Dimensional Array
    5. Size of array
    6. Subscript
    7. Contiguous
    8. Elements

1. **True/false**
    1. The number of values between braces { } cannot be larger than the number of elements that we declare for the array between square brackets [ ].
    2. Array subscript is the same as the index
    3. Array of strings in C++ is used to store a null terminated string which is not a character array.
    4. The simplest form of the multidimensional array is the two-dimensional array.
    5. The array Size can be equal to zero.

    Answer:

    1. True
    2. True
    3. False
    4. True

5. False

2. Short Answer Type Questions:

1. Define an array.
2. Write a procedure to declare an array in C++.
3. What is subscript?
4. Explain two dimensional arrays. Give example.
5. What do you mean by array initialization?
6. Define one dimensional array?
7. What is multi-dimensional array? Give Example?

3. Long Answer type Questions:

1. Explain the process of accessing two dimensional arrays with the help of an example.
2. What is the difference between declaring and initialization of an array? Give example to explain.
3. Explain array of string? Give example?

Chapter 6

1. Fill in the blanks:

1. A static member is shared by all _____ of the class.
2. Class name is a valid _____ for the class.
3. _____ specifies the class to which the member being declared belongs.
4. _____ Member is accessible from anywhere outside the class but within a program.
5. _____ is an instantiation of a class.
6. A _____ member variable or function cannot be accessed
7. A _____ member variable or function is very similar to a private member
8. An array of variables of type "class" is known as _____

Answer:

1. Objects
2. Identifier
3. Scope resolution operator (::)
4. Public
5. Object
6. Private
7. Protected
8. **An array of objects**

2. True/False

1. Classes have no similarities with data structures.
2. An object is an instantiation of a class.
3. A static member function can only access static data member.
4. Member functions cannot be defined within the class definition.
5. A class can have multiple public, protected, or private labeled sections.
6. A class is used to specify the form of an object.
7. By declaring a function member as static, you make it independent.

Answer:

1. False
2. True
3. True
4. False
5. True
6. True

7. True

3. Short Answer type Questions:

1. What is a class? How we Define it?
2. What is array of objects? Explain.
3. Is it possible to do the nesting of member function? If yes, explain.
4. What is inline function?
5. Define encapsulation.
6. Explain about declaration of classes?
7. What are default labels?
8. What is protected member?
9. Explain member function with example?
10. What is data hiding?

4. Long Answer type Questions

1. What is access specifier? Explain
2. Explain the working of public members with an example.
3. Explain the scope of classes and its members?
4. Explain the Difference between private and public member?
5. Give an example of array within a class?
6. Explain static function member with example?

Chapter 7

1. Fill in the blanks:

1. Constructors are the special type of member function that _____ the object automatically.
2. _____can refer to a constructor that is automatically generated by the compiler in the absence of any programmer-defined constructors.
3. When allocating memory dynamically, the constructor may be called by adding _____ after the class name.
4. _____ of the members is the order in which they are defined.
5. _____allows different initialization modes using overloaded constructors.
6. An _____ is a declaration that had been declared with the same name as a previously declared declaration in the same scope.

Answer:

1. Initializes
2. Default constructor
3. parenthesis
4. construction order
5. dynamic initialization
6. overloaded declaration

2. True/False

1. A destructor will have exact same name as the class prefixed with a tilde (~).
2. Default constructor cannot refer to a constructor that is automatically generated by the compiler in the absence of any programmer-defined constructors.
3. We can have multiple definitions for the same function name in the same scope.
4. Pointer variables cannot be used as argument for constructors.
5. An object can be initialized with another object of same type.
6. We can also initialize data member inside the constructor's function body.
7. Each class can have at most one default constructor
8. A default constructor have any parameter
9. The Initialization of data is called as dynamic initialization

Answer

1. True
2. False

3. False
4. True
5. True
6. True
7. True
8. False
9. True

3. Short Answer type Questions :

1. What do you mean by constructors?
2. Explain parameterized constructors.
3. What do you mean by dynamic initialization of constructors?
4. What are Destructors?
5. What do you mean by Function overloading?
6. Explain about declaration of constructor?
7. Define the working of constructor?
8. What is default constructor?

4. Long Answer type questions:

1. What do you mean by constructors? What is the need for define a constructor in a class?
2. Describe the process of dynamic initialization of constructors.
3. Explain the difference between constructor and default copy constructor?
4. Explain the characteristics of class destructor?

Chapter 8

1. Fill in the blanks:

1. The base class is also called.....
2. _____inheritance is a combination of hierarchical and multiple inheritance
3. By default base class is visible as..... Mode in derived class.
4. When a derived class is derived from more than one base class then the inheritance is called ..... inheritance.
5. _____ is very similar to a parent-child relationship.
6. The _____ and _____ members are not accessible outside the class.
7. The old class is referred to as the base class and new one is called the _____ class.
8. A derived class with several base class is called _____ inheritance.
9. The public derivation does not change the access specifiers for inherited members in the _____ class.
10. A derived class with only one base class is called _____ inheritance.

Answer

1. old Class
2. Hybrid
3. public
4. multiple
5. inheritance
6. private and protected
7. derived
8. derived
9. single

2. True or False.

1. Inheritance means child receiving certain traits from parents.
2. The default base class is visible as public mode in derived class.
3. When a derived class is derived from more than one base class then the inheritance is called hierarchical inheritance.
4. Private data of base class can be inherited.
5. A derived class with several base classes is called multiple inheritances.
6. The mechanism of deriving a class from another derived class is called multilevel inheritance.
7. One class may be inherited by more than one class. This process is hierarchical inheritance.
8. Hybrid inheritance is a combination of hierarchical and multiple inheritance

1. True
2. True
3. False
4. False
5. True
6. True
7. True
8. True

3. Short Answer Type Questions:

1. What is inheritance ?
2. Name the different forms of inheritance?
3. What are the three modes of inheritance?
4. What is the difference between private and protected sections?
5. What are the needs of inheritance?
6. What is derived class?
7. What is Single inheritance?

4. Long Answer Type Questions:

1. What is base class and derived class? Explain with example.
2. Explain the different forms of Inheritance
3. What do you mean by visibility modes? Explain each.
4. Explain the difference between multiple and multilevel inheritance?
5. What is the difference between hybrid and hierarchical inheritance?
6. Explain the difference between private and public visibility mode?

Chapter 9

1. Fill in the blanks:

1. _____ between nodes are established using either cable media or wireless media.
2. Networking of computers helps the users to _____ data files.
3. _____ are the physical pathways that connect computers Transmission channel or media are the physical pathways that connect computers.
4. _____ is public or privately owned communication system that typically covers a complete city.
5. The core of fiber optic cable is made of_____.
6. A _____ can transmit data simultaneously in both directions on transmission path.
7. The term _____ defines the direction of the flow of information between two communication devices.
8. A _____ is a telecommunications network that allows computers to exchange data.
9. A _____ is the way computer systems or network equipment connected to each other.
10. _____ refers to anything related to computing technology, such as networking, hardware, software, the Internet.

Answer

1. connection
2. share
3. Transmission channel or media
4. MAN
5. glass
6. full-duplex system
7. transmission mode
8. computer network or data network
9. network toplogy
10. information technology

2. True/False

1. Information must be relevant to basic purposes.
2. The connections (network links) between nodes cannot be established using wireless media.
3. If the hosts are connected point-to-point logically, then may not have multiple intermediate devices.

4. A metropolitan area network, or MAN, consists of a computer network across an entire city, college campus or small region.
5. Transmission channel or media are the physical pathways that connect computers, other devices, and people on a network.

Answer:

1. True
2. false
3. false
4. True
5. True

3. Short Answer type Questions:

1. What is term Information Technology?
2. What is computer network?
3. Explain the components of data communication.
4. What are the advantages of network?
5. Name the modes of Data transmission.
6. What are the characteristics of Technology
7. What is the Need of Network
8. What is tree topology
9. What is Satellite
10. Explain Full duplex mode
11. What is fiber optics
12. Define Coaxial Cable

4. Long Answer type Questions:

1. What do you understand by the term Information Technology? Explain its need.
2. Explain the types of computer network.
3. Explain the mode of Data Transmission.
4. What are the advantages and disadvantages of computer network?
5. Explain the Transmission channel or media
6. What are the Components of Data Communication
7. Explain the different types of network topologies?

5. Give Differences

1. LAN and WAN
2. Bus Topology and Ring Topology
3. Twisted pair and Coaxial cable
4. Star and mesh topology
5. MAN and PAN
6. Simplex and half duplex